REMARKS

Claims 1 and 3-17 are pending. By this amendment, claims 1 and 6 are amended and claim 2 is canceled. Claim 1 is amended to incorporate the subject matter of claim 2. Claim 6 is amended to place it in allowable, independent form, incorporating the subject matter of claims 5 and 1 No range of equivalents is intended to be surrendered by these amendments. No new matter is introduced. Reconsideration and issuance of a Notice of Allowance are respectfully requested.

Applicants thank the Examiner for indicating that claims 6, 12 and 13-17 are contain allowable subject matter. Regarding the Examiners statements for the reasons for indication of allowable subject matter, Applicants respectfully traverse Examiners conclusions as to the subject matter allegedly taught by the art of record. Applicant does agree that the prior art does not disclose, suggest, or make obvious the claimed invention recited in claims 6, 12 and 13-17. Applicants agree that the cited prior art, considered as a whole, fails to teach or suggest each and every element of the invention that is recited in these claims. Thus, these claims are allowable over the cited prior art.

Claims 1, 7, 13 and 16 are rejected on the grounds of non-statutory obvious-type double patenting over U.S. Patent 6,618,801. A terminal disclaimer is filed herewith. This rejection is rendered moot. Applicants respectfully request the withdrawal of this rejection.

Pending claims 1 and 3 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Panwar and Hull. Applicants respectfully traverse this rejection.

"To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." MPEP 2143.03 (emphasis added). Panwar and Hull do not teach or suggest all of the claim limitations of claim 1.

For example, Panwar and Hull do not teach or suggest:

> selecting either the microinstruction from the fetch engine or the bundle from the emulation engine, by using the multiplexer, and
>
> dispatching the selected microinstruction/bundle to the execution engine,

as recited in claim 1. These claim features were incorporated into claim 1 from canceled claim 2. The Office Action, in para. 17 on page 9, cites to Panwar, col. 7, ln. 61-col. 8, ln. 2, col. 8, lines 15-17, and col. 10, lines 34-37 as teaching these features. However, an examination of these cited passages shows that Panwar only teaches selecting the non-complex instructions and complex instructions from the "main bundle 203" (*i.e.*, prior to expansion of the complex instruction) "in the multiplexer 304", not selecting either a

microinstruction from the fetch engine or a bundle from an emulation engine (*i.e.*, after emulation of a macroinstruction). Specifically, Panwar teaches selecting the non-complex instructions from the main bundle in the multiplexer for passing along "bypass data path 310" and selecting the complex instructions from the main bundle in the multiplexer for passing along "complex instruction path 312." As is clearly shown in the cited passages, and illustrated in FIG. 3, this is merely a routing selection that takes place before complex instructions are expanded and the resultant microinstructions bundled, as the complex path 312 is where this takes place. Since this takes place before complex instructions are expanded, this selection cannot be the claimed selecting between a microinstruction and a bundle and dispatching.

Indeed, as is clearly illustrated in FIG. 6 of Panwar, and described in the corresponding text, Panwar places non-complex instructions in a non-complex sub-bundle until a complex instruction is detected (see step 602). If a complex instruction is detected, Panwar issues the instructions in the non-complex sub-bundle for execution (see step 604). Then, Panwar expands the detected complex instruction into microinstructions (step 606), places those microinstructions in a complex sub-bundle (step 608), and issues microinstructions in the complex sub-bundle for execution (step 610). Thus, Panwar dispatches non-complex instructions (the non-complex sub-bundle) for execution before it even expands the detected complex instruction into microinstructions. Consequently, Panwar never teaches or suggest selecting either a microinstruction from the fetch engine or a bundle from the emulation engine and dispatching the selected microinstruction/bundle.

Hull does not overcome these defects in Panwar. Consequently, claim 1 is not rendered obvious for at least these reasons. Claim 3, which depends on claim 1, is allowable for at least these reasons and the independent features it recites.

Claim 4 is rejected under 35 U.S.C. 103 (a) as being unpatentable over Panwar and Hull, further in view of Nemirovsky and Davidson. Nemirovsky and Davidson do not overcome the defects of Panwar and Hull discussed above with regards to claim 1. Claim 4, which depends on claim 1, is allowable for these same reasons and for the independent features it recites.

Applicants also respectfully note that the Office Action provides no motivation for combining Nemirovsky with Panwar and Hull. The Office Action states that Nemirovsky teaches using an immediate and then states that it would have been obvious "to include an immediate value to the execution engine so that the execution unit would be able to correctly execute the instruction." This is circular logic at best. The Office Action must provide

motivation to include an immediate instruction taught by Nemirovsky before being able to combine Nemirovsky with Panwar and Hull.

Applicants also respectfully note that Panwar, Hull, Nemirovsky and Davidson, even if they were properly combined, do not teach or suggest that a MLI template "is interpreted by the execution engine differently, depending upon whether the execution engine is operating in native more or emulation mode," as recited in claim 4. Davidson does not teach an MLI template. Davidson does not teach operating in native mode or emulation mode. Davidson does not teach interpreting an MLI template differently if in native mode or emulation mode.

Claim 5, 7, 8, 10 and 11 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Panwar, Hull and Eickemeyer.

With regards to claim 5, Eickemeyer does not overcome the defects of Panwar and Hull with regards to claim 1 as discussed above. Therefore, claim 5, which depends on claim 1, is allowable for these same reasons and for the independent features it recites.

Furthermore, Panwar, Hull and Eickemeyer do not teach or suggest:

wherein the bundler...

determines how many of the at least one XUOP are received, and

when more than one XUOP is received, determines whether the XUOPs must be issued in parallel,

as recited in claims 5 and 7. The Office Action relies on Eickemeyer for teaching these features. However, neither the cited passages nor anywhere else in Eickemeyer teaches these features. For example, the Office Action cites to col. 9, lines 26-50, col. 10, lines 15-30 and Figures 5a and 5b as purportedly teaching "The compounding unit determines how many XUOP's are received based on the tags and/or instruction boundaries in the instruction stream." None of these cited passages teaches examining tags or instruction boundaries to determine or count XUOP or otherwise determine how many XUOP are received. Rather these passages merely teach that there are tags and instruction boundaries. The mere existence of tags and instruction boundaries does not, without more, teach or suggest determining how many XUOP are received.

Furthermore, Eickemeyer does not teach or suggest determining whether XUOPs must be issued in parallel. Indeed, the abstract of Eickemeyer clearly states that the tag field merely "indicates whether or not that instruction may be processed in parallel with another neighboring instruction." (emphasis added). Indicating that something may be done is not the

same as determining whether something must be done. Nowhere does Eickemeyer teach or suggest a bundler that determines whether the XUOPs must be issued in parallel.

Consequently, for at least these reason, claims 5 and 7 are not rendered obvious. Claims 8, 10 and 11, which depend on claim 7, are also allowable for at least these reasons, and the independent features they recite.

Claim 9 is rejected under 35 U.S.C. 103 (a) as being unpatentable over Panwar, Hull, Eickemeyer and Davidson. Davidson does not overcome the defects of Panwar, Hull and Eickemeyer discussed above with regards to claim 7, upon which claim 9 depends. Therefore, claim 9 is allowable for at least these reasons and the independent features it recites.

In view of the above remarks, Applicants respectfully submit that the application is in condition for allowance. Prompt examination and allowance are respectfully requested.

Should the Examiner believe that anything further is desired in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,

Date: **April 25, 2006**

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